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FEDERAL ENERGY
REGULATORY COMMISSION

Lois Cashell, Secretary
Federal Energy Regulatory Commission
888 1st Street, NE
Washington, D.C. 20426

MAR 29 1996

Re: Federal Energy Regulatory Commission's (FERC) Draft
Environmental Impact Statement for the Cushman
Hydroelectric Project No. 460-001, Mason County, WA

Dear Ms. Cashell:

The Environmental Protection Agency (EPA) has reviewed the draft Environmental Impact Statement (EIS) for the Cushman Hydroelectric Project. Our review was conducted in accordance with the National Environmental Policy Act (NEPA) and our responsibilities under Section 309 of the Clean Air Act. Our general comments are presented below; please see the attachment for more detailed comments.

The Cushman Hydropower Project, constructed in 1926, consists of two dams and impoundments on the North Fork of the Skokomish River with associated penstocks, powerhouses and a transmission system that crosses the Skokomish Indian Reservation extending 42 miles to the city of Tacoma. Presently almost the entire North Fork (96%) is diverted via penstocks out of the Skokomish Watershed and discharged into Puget Sound. Annually, this project provides Tacoma Public Utility (TPU) with 343 million kilowatt-hours or about 4 percent of its total energy requirements.

In recent years, EPA has committed considerable resources to improving the overall health of the Skokomish Watershed. We have provided substantial financing for the Skokomish Indian Tribe's Skokomish Watershed Protection Demonstration Project. We are working with other federal, state, and local agencies and the Skokomish Indian Tribe on the Skokomish River and Estuary Restoration Project. The Skokomish River estuary, including the fish, shellfish, and wildlife resources, is part of the larger Puget Sound Estuary Program conducted under the Clean Water Act National Estuary Program.

The draft EIS evaluates four project alternatives, including TPU's proposal which would divert 682 cfs (87% of flows) out of the Skokomish basin. The project alternatives are: Alternative 1, the "no action" alternative, is a continuation of current project operations which divert 750 cfs (96% of flows), Alternative 2 returns near natural flows (782 cfs) to the basin,

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FERC DOCUMENT

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Alternative 3 (FERC staff's recommendation) diverts 572 cfs and Alternative 4 proposes decommissioning with and without dam removal which would return natural flows.

EPA has significant concerns regarding the adequacy of the draft EIS. In particular the draft EIS does not (1) provide a comprehensive analysis of cumulative impacts; (2) appropriately characterize the no-action alternative; (3) assess impacts on Tribal Trust/Treaty resources; (4) give equal consideration to power and nonpower values when assessing project "benefits"; and (5) provide sufficient information and support conclusions regarding alternatives and mitigation measures, especially with regard to restoration of more natural flows to the North Fork.

Moreover, based on the currently available information we believe the TPU's alternative and FERC staff's recommended alternative would have significant long term (30-50 years) adverse ecological, social, economic and cultural impacts. For example we believe these alternatives would result in:

- continued adverse impacts on eight anadromous salmonid species in the Skokomish watershed (the Skokomish River and the North Fork were among the most important and valuable salmon spawning streams in the State of Washington);
- progressively more frequent and severe flooding in the mainstem due to continued sediment aggradation (in 1944 the mainstem Skokomish River channel capacity was ~18,000 cfs, today's capacity is ~5,000 cfs);
- continued adverse impacts on the Skokomish River estuary due to significantly reduced inflow (30%) of fresh water flows of the Skokomish River (the mixing zone of fresh water and saltwater is essential to the survival of several juvenile species of salmonids);
- continued adverse impacts on commercial and sport fishing opportunities for Pacific salmon; (in 1994 due to reduced fish stocks there were large scale fish closures in Puget Sound);
- continued significant adverse impacts on the Skokomish Tribe and their associated Trust/Treaty resources (the land adjacent to the Skokomish River was selected as the Tribe's Reservation because of the abundant fish and shellfish, which raises environmental justice concerns, as outlined in Executive Order 12898).

The draft EIS states that in general, the optimal approach to minimizing these impacts and restoring ecological functions would be to restore near full flows to the North Fork. However, FERC places an artificial and arbitrary cap on the level of mitigation, regardless of the magnitude of the impacts, therefore limiting opportunities for restoration. The identified adverse environmental impacts from TPU's alternative and FERC's recommended alternative are of sufficient magnitude that EPA believes these alternatives must not proceed as proposed. Moreover, we believe that the inadequacies of the draft EIS are such that preparation of a revised draft EIS is necessary in order to re-examine FERC's obligation to mitigate these adverse impacts.

We believe it is critical that FERC evaluate another alternative which better balances the interests in restoration of near natural flows to the North Fork, flood control, maintenance of summer pool levels and electrical generation. In developing this alternative, FERC should (1) consider the cost-effectiveness of the construction of any new powerhouse; (2) conduct a sensitivity analysis to determine the cost-effectiveness of the mitigation measures proposed by the "Joint Resource Parties"; (3) quantitatively assess the benefits of those measures (or qualitatively assess them if a quantitative assessment is not feasible or not appropriate); and (4) in conducting the economic analysis, compare the net benefits to the general public that accrue from this alternative with the net benefits of the other alternatives. For nearly seventy years, the Cushman Project's out-of-basin diversion has resulted in TPU monopolizing the use of the North Fork for hydropower benefits. FERC must now decide how the North Fork flows may best serve all public interests.

In accordance with EPA's national rating system, EPA has rated the draft EIS for the Cushman Hydroelectric Project as Environmentally Unsatisfactory - Inadequate (EU-3). If the concerns that form the basis of this rating are not resolved adequately, EPA will consider the EIS a candidate for referral to the Council on Environmental Quality pursuant to Section 309 of the Clean Air Act. Please see the attached rating sheet for a full description of these ratings.

Thank you for the opportunity to comment on this draft EIS. EPA is committed to working with FERC, the TPU and other federal, tribal and state resource and regulatory agencies to resolve our concerns with the draft EIS. EPA believes that through a collaborative effort by all the involved parties, environmentally sound development of hydropower resources on the North Fork Skokomish River can be identified and licensed.

Please contact me directly or Larry Brockman (206/553-1750) of my NEPA Review team if you have any questions about our comments on the draft EIS.

Sincerely,

A handwritten signature in cursive script that reads "Chuck Clarke".

Chuck Clarke
Regional Administrator

Attachments (3)

cc: Service List

February 15, 1996

To : JRP Committee
From: Brad Caldwell, Washington State Department of Ecology
Concerning: Site Visit to the North Fork Skokomish River

On February 7, 1996 I visited the North Fork Skokomish River with Hal Beecher and Elizabeth English of the Washington State Department of Fish and Wildlife to do a survey of the effects of a previous spill from Cushman Dam #2 of around 3500 cfs for 5 consecutive days (December 16 to 20, 1995).

The reason for the survey was the speculation by FERC staff in FERC's DEIS on the Cushman Project that a 400 cfs release from Cushman #2 would widen the existing North Fork Skokomish channel. Additionally, FERC staff recommended a 2500 cfs release for 5 days from Cushman #2 during natural high flows in the mainstem Skokomish River to evaluate impacts on channel conveyance but failed to mention how this might effect the same North Fork Skokomish channel FERC expects to be widened by a 30-day flow of 400 cfs. The expectation by FERC was that a 400 cfs flow release from Cushman #2 into the North Fork Skokomish River would remove riparian vegetation and move gravel to create a new wider channel.

My observation of the North Fork Skokomish channel upstream of McTaggart Creek for 0.2 to 0.3 of a mile found that the 3500 cfs flow had only thinned the grasses and ferns near the waterline at the usual 40 cfs flow in this reach with occasional new side channels cut across sharp natural bends in the river. These new side channels were filled only with small pea gravel and sand from when the water was flowing about 5 feet higher at 3500 cfs. Apparently, the velocities created by 3500 cfs for 5 days are not high enough to move medium or large gravel, nor are the velocities high enough to remove all grasses or ferns even in small patches along the waterline at 40 cfs.

I observed the North Fork Skokomish channel downstream of McTaggart Creek for about 0.3 of a mile and found a similar effect with only thinned grasses and ferns along the waterline with the riparian vegetation still intact even with 5 days of about 3600 cfs with a peak flow of 3940 cfs on December 18, 1995. The one place where some channel change was about 0.3 mile downstream of McTaggart Creek where gravel and small cobble had been deposited in the main channel about 4 feet high. This was apparently caused by a couple of trees in the channel that had deflected the flow of water during the 3600 cfs flow. However, this deposition was within the normal channel and the riparian vegetation along the normal low flow channel was still intact.

The flow in the North Fork Skokomish channel during my visit on February 7, 1996 was a daily average of 41 cfs at the upper USGS gage, (#12058800, below Cushman Dam) and 703 cfs at the lower gage (#12059500, Near Potlatch). The flow was estimated at approximately 90 cfs just upstream of McTaggart Creek and around 600 cfs just downstream of McTaggart Creek.

I concluded that since a 5-day flow of about 3500 cfs had no significant effect on the channel or the riparian vegetation along the North Fork Skokomish River channel, there was no chance that 400 cfs for a month or 2500 cfs for 5 days would have any significant effect either on the channel shape or riparian vegetation.

The lack of channel change in the North Fork Skokomish River from a 3500 cfs spill from Cushman Dam #2 is not surprising since the channel shape is determined by the dominant flow down the channel and the recent dominant flows down the channel have been an average daily flow of 3270 cfs on November 24, 1990 and 2280 cfs on August 31, 1991 (USGS gage #12059500).

**U.S. Environmental Protection Agency Rating System for
Draft Environmental Impact Statements
Definitions and Follow-Up Action***

Environmental Impact of the Action

LO - - Lack of Objections

The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - - Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - - Environmental Objections

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - - Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - - Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - - Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect

the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
DETAILED COMMENTS REGARDING
CUSHMAN HYDROELECTRIC PROJECT ENVIRONMENTAL IMPACT STATEMENT

Tribal Trust/Treaty Resources

The revised draft EIS must assess impacts on Tribal Trust/Treaty Resources.

The draft EIS is silent on the Federal Energy Regulatory Commission's (FERC or Commission) trust responsibility to the Skokomish Indian Tribe. As indicated in our letter dated October 26, 1994, the Skokomish Indian Tribe has treaty-reserved hunting and fishing rights in the Skokomish River Basin. The Skokomish Tribe, pursuant to the Treaty of Point No Point, 12 Stat. 933 (1855), reserved to itself rights in the lands and waters and other natural resources of the reservation, including fishery resources, as well as the right to take fish at certain off-reservation usual and accustomed fishing places. As an agency of the federal government, FERC is subject to the United States' trust responsibilities towards Indian tribes. Coyolo Indian Community v. FERC, 895 F.2d 581 (9th Cir. 1990). In addition, consistent with President Clinton's memorandum of April 29, 1994 on the subject of government-to-government relations with Native American Tribal governments, Federal government plans, projects, programs and activities are to assess impacts on tribal trust resources. Moreover, the impacts to Tribal Treaty resources are not identified or evaluated in the draft EIS.

Also, the need for assessing these impacts comports with the requirements of the Council on Environmental Quality (CEQ) Regulations for implementing NEPA. FERC's draft EIS must first identify impacts from various alternatives on Tribal treaty resources and then discuss measures to mitigate for those impacts, keeping in mind that one approach to mitigation is to avoid the impacts all together (40 CFR § 1508.20).

As a starting point for assessing impacts, particularly cumulative impacts, (see Cumulative Impacts below) on Tribal treaty/trust resources, the revised draft EIS should address how and the extent to which the Cushman project has since 1926 significantly diminished fisheries reserved by treaty for the Skokomish Tribe; flooded or dewatered the treaty protected fishing places of the Skokomish Tribe from the headwaters of the North Fork Skokomish River to the river mouth; blocked anadromous fish passage; reduced wildlife habitat and access to elk herds serving the treaty hunting rights; flooded, dewatered or occupied traditional cultural properties and archeological resources; occupied some of the most habitable land on the Reservation and extended transmission lines across the Reservation's shorefront; exacerbated flooding on the Reservation; diverted and used waters reserved for the Reservation and for the Skokomish Tribe's treaty protected interests, and changed the geomorphology and reduced

the biological productivity of the Skokomish River estuary and the extent to which the project continues to have these impacts today.

Impact Assessment and Environmental Justice

The revised draft EIS should identify and address disproportionately higher and adverse human health and environmental effects on the Skokomish Indian Tribe and must assess and consider significant impacts on Tribal resources.

For the past two decades, there has been increasing concern over environmental impacts on minority populations and low-income populations, including Native Americans. Some studies have concluded that some communities face greater environmental health risks. These same communities may also lack the financial and political power to address or resist adverse environmental burdens.

To address these concerns, President Clinton issued Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (EO) on February 11, 1994. The EO is designed to focus the attention of the federal agencies on the human health and environmental conditions in minority communities and low-income communities. It directs federal agencies, and requests independent agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority and low-income populations. An accompanying Presidential Memorandum emphasizes several provisions of existing environmental law that provide opportunities for agencies to address environmental hazards in minority communities and low-income communities. It directs federal agencies to analyze "the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities (including Tribal communities) and low-income communities, when such analysis is required by ... NEPA."

EPA brings this to FERC's attention because for over 70 years there has been an obvious biological, social, economic and cultural impact from the Cushman dams and the project's out-of-basin diversion on the Skokomish Indian Tribe and their associated Tribal treaty resources. As mentioned previously, EPA has a key role in the overall implementation of NEPA as a result of the requirement of §309 of the CAA that EPA review all federal EISs. Thus we are directed by the Presidential Memorandum to ensure that agencies fully analyze environmental effects on minority communities and low income communities which includes, in this instance the Skokomish Tribe.

The Council on Environmental Quality (CEQ) Regulations for implementing NEPA (40 CFR §1500 et seq.) define the "human environment" as the "natural and physical environment and the

relationship of people with the environment" (40 CFR §1508.14). While economic or social effects do not trigger the preparation of an EIS, all effects on the human environment must be analyzed as part of an EIS (40 CFR §1508.14). Effects include aesthetic, historical, cultural, economic, social and health impacts, including direct, indirect or cumulative effects (40 CFR § 1508.8).

Additionally, FERC has acknowledged that the Cushman project only had a minor part license and the Commission's failure to issue a license for the complete project was founded on a "mistaken view of the law and the facts" (FERC Order, May, 1994). As a result of this "mistaken view of the law", the project never had a thorough environmental review and most importantly, FERC has required no mitigation for the 70 years the project has significantly impacted the fish and wildlife, cultural and historic properties, degraded the aesthetic values, health and sustainability of the Skokomish watershed and has disrupted the Tribal community. The Washington Department of Fisheries estimated that prior to the Cushman dams, the Skokomish River had provided more salmon habitat than all other Hood Canal streams combined (Smoker, 1949, cited in James). This year-round fishery was integral to the Skokomish Tribe's culture and economy and among the reasons for locating the Reservation on the Skokomish River (cite). As a result, the Cushman project has resulted in adverse impacts significantly affecting the Skokomish Tribal environment.

For the Commission to make an informed licensing decision, particularly in light of FERC's trust responsibility and keeping with the CEQ Regulations and the President's request in the EO, past, present and reasonable foreseeable impacts on Tribal trust/treaty resources must, at a minimum, be assessed and considered in deciding the best use of the Skokomish waterway for the next 30-50 years.

Cumulative Impacts

The revised draft EIS must include a comprehensive cumulative impacts analysis.

EPA believes the cumulative impacts analysis in the draft EIS is inadequate. A comprehensive analysis of cumulative (e.g., past, present and reasonably foreseeable) impacts seems particularly relevant in these proceedings given that this project has had such a devastating effect on the entire watershed for over 70 years. As mentioned earlier, the project only had a minor part license and has never gone through a thorough environmental review. As a result, impacts were never assessed nor mitigated.

For key resources like anadromous fish habitat, the draft

EIS made no attempt to assess past project-related losses. To the extent that the draft EIS discusses pre-project resource conditions, it is merely descriptive and is not used as a measure for evaluating the various alternatives, which is central to the equal consideration requirement in the Federal Power Act (FPA). Furthermore, the limited discussion of past impacts or pre-project conditions in the draft EIS is not synthesized into a comprehensive analysis of cumulative impacts.

The cumulative impact evaluation must begin with an assessment of the degree to which impacts have already occurred, including impacts resulting from other types of projects in the watershed. Such a baseline assessment is critical to the ability to measure significance to any amount of further impact. For the Commission to make an informed decision, a comprehensive analysis of past, present and reasonably foreseeable impacts must be assessed and considered in deciding the best use of the Skokomish waterway for the next 30-50 years.

The revised draft EIS should evaluate the contributions the proposed alternatives may have on cumulative impacts to water quality, fish and wildlife, wetlands, riparian areas, and recreation resources in the Skokomish watershed. With this in mind, a cumulative effects analysis should include, at a minimum, a discussion of the following three categories of effects:

- * Effects of past connected and cumulative actions;
- * Effects of present connected and cumulative actions; and
- * Effects of reasonably foreseeable future connected and cumulative actions

The analysis should include evaluation of direct and indirect effects on all resource categories. It is important that connected and cumulative actions include federal and non-federal (even private) actions that are "reasonably foreseeable." The most effective cumulative effects analysis focuses on what the resource or ecosystem needs for long-term productivity or sustainability.

Key questions which need to be addressed in the cumulative impacts analysis include: (1) how and to what extent has the Cushman Project affected the Skokomish River watershed since the project was constructed; (2) to what extent have adverse impacts been mitigated in the past; (3) to what extent would each alternative mitigate for unmitigated past, present and future impacts (4) how and to what extent the project continues to degrade naturally existing ecological systems.

Hydrology and Aquatic Resources Recovery in the North Fork

The draft EIS does not substantiate its conclusions regarding adverse impacts to existing fisheries from returning flows to the

North Fork.

EPA does not agree with FERC's conclusion that the short-term impacts to fisheries resources from returning near full flows to the North Fork Skokomish River could "cause serious habitat disruption and exterminate fish stocks at low levels." First, the draft EIS does not provide sufficient information to substantiate this conclusion. Secondly, the draft EIS acknowledges that over the long run, the greatest gains in terms of fish habitat and flood control (via bed transport efficiency and degradation) would be achieved through flow regimes that closely mimic natural flows.

The draft EIS's concerns center on a presumption that "greatly increased" flood flows (over the existing static flow regime) in the North Fork would: (1) cause bed scour of salmon redds; (2) accelerate riparian bank and streambed erosion; (3) displace and strand juvenile fish; and (4) possibly require excavation of the channel due to accumulated detritus, fines and organic matter. This concern seems to be based on an incomplete understanding of the Joint Resource Parties' (JRP) proposal and about the habitat opportunities that will be realized with increased flow. The following addresses these concerns and discusses what the agencies and Tribe meant by recommending the return of near full flow to the North Fork Skokomish River:

(1) Localized bed scour may occur as a natural process but is not likely to be extensive until and unless flood flow magnitude and duration approach the 2 yr. recurrence interval. Even then, the extent of redd scour is difficult, if not impossible, to predict. The concern for scour of individual redds can and perhaps should be part of an overall rebuilding strategy to increase the survival of eggs to juvenile stage. This would involve conducting spawning ground surveys to locate individual redds at risk, and once the embryos have developed to an eyed stage, they would be removed from the river bed and raised under controlled hatchery conditions. Once developed to the juvenile stage, and the risk of overbank flows is over, they would be returned to the river to finish their early life history rearing. Numbers of outmigrating smolts could be substantially increased by this method, until such time as the channel has equilibrated to the new flow regime and the stock numbers have recovered to the point that their survival seems reasonably assured. Such a program of supplementation will likely be part of the overall recovery strategy, as is the case in the Columbia River system (NWPPC, Fish and Wildlife Program 1994; Yakima Fisheries Project 1995); and the Dungeness River Native Chinook Restoration Project 1995).

(2) EPA does not agree that these "greatly increased flood flows" in the North Fork would destabilize existing habitat. Channel forming flows of a sufficient magnitude to alter the

geometry of the historic channel are typically the 2 yr. recurrence interval flow. This volume at the Staircase Rapids gage (which better approximates historic discharge in the No. Fk. than the Potlatch gage records) is approximately 4000 cfs (p. 3-13 of draft EIS). Flows approaching this amount (3500 cfs) were released for 5 consecutive days in December 1995, with no appreciable evidence of channel erosion or bed scour (see B. Caldwell memo of 2/15/96). It is improbable, therefore, that any measurable bank erosion or bed scour would occur under the flows prescribed by the JRP.

(3) EPA believes it is important to focus on what habitat gains will be realized with increased flow to the North Fork. Increased flows would provide off-channel habitat or greatly increase habitat in channel margins for juvenile salmon. The possibility that juvenile fish rearing in the North Fork above McTaggart Creek would be displaced during higher flows is balanced by the newly watered near bank and off-channel habitat downstream that would be created in quantities.

(4) The draft EIS also asserts that 50 years of accumulated detritus, fines, and organic matter may make it impossible to release "full flows" without excavating the channel. We do not agree with this conclusion. Recent field observations of the aftermath of storm flow releases into the North Fork Skokomish in December 1995 of > 3500 cfs (for durations exceeding 4 days) apparently had little effect on the existing "new" riparian vegetation and bank conditions (Caldwell memo of 2/15/96). The historic North Fork channel is essentially intact, and has the inherent capacity to accommodate flows in excess of the two-year recurrence interval magnitude. Granted, the margins of the historic channel now have young deciduous vegetation that has become established along the greatly depleted wetted perimeter established before and since minimal flows were again released in 1989. As such, the short-term and long-term habitat potential under flow regimes approximating the historic hydrology are vastly greater than under existing or FERC's proposed static flow conditions. Tacoma's attempt to model the hydraulics and habitat potentials of the channel are of limited value in that they only made measurements of a portion of the historic channel bankfull geometry. This is why one cannot easily extrapolate Tacoma's physical habitat simulation model (PHABSIM) to flows approximating the historic range that is desired by the JRP (Bovee 1982).

EPA is concerned that FERC may have a misunderstanding of the objective and what is exactly meant by *near full flows*. The overall objective of restoring near full flows is to provide a flow regime in the North Fork that restores a "dynamic equilibrium" to the aquatic ecosystem. The energy in flowing water is the driver for development and maintenance of both physical and biological processes within the river. These

processes shape, deform and reshape the stream channel and determine the spatial and temporal nature of instream habitat (Leopold et al. 1964). Salmon, trout and other aquatic organisms have evolved under these dynamic regimes of flow, and have evolved a repertoire of behaviors and adaptive strategies to take advantage of the habitats provided. This dynamic character needs to be re-established in the North Fork. This does not necessarily mean a regime that exactly matches natural flows. Instead, it is important from an ecological point to establish a dynamic system rather than a flow regime that is essentially static in terms of its relationship with processes that shape fish habitat and life history requirements over time and space.

We recognize in returning near full flows consideration will need to be given to the level of flows in the South Fork and the channel carrying capacity of the mainstem. To prevent overbank flooding in the main Skokomish, as North Fork flows join those of the South Fork, the actual mainstem discharge volume at certain critical periods will need to be dampened to achieve a balance to allow bedload transport in the mainstem, while ensuring minimal effect on habitats within the North Fork. The specific timing of flow releases to achieve this dual purpose would need to be worked out after an analysis of what is now a substantial body of information on Skokomish basin hydrology (magnitude, frequency and duration of channel forming flows > or = 2 yr recurrence interval flows), and existing channel morphology and bed transport characteristics (see declarations by Watson 1992, 1994; Dawdy 1994; Jay 1994). It may take a period of time to progress towards the final regime. As transport efficiency and channel capacity in the mainstem is increased, other factors may influence the rate of channel recovery. Furthermore, we would expect concurrent recovery of process within the Skokomish estuary in response to re-establishment of a more natural regime. Unfortunately, the draft EIS does not present the requisite analysis of channel hydraulics and hydrology to craft a schedule of flow releases that could accelerate the rate of recovery in channel conveyance capacity while allowing recovery of habitat use in both the mainstem, the North Fork channels and the Skokomish estuary.

Finally, while there is a paucity of literature describing recovery of stream systems following restoration of historic flow regimes, available evidence suggests that lotic systems recover quite quickly. (Where historic water withdrawals have greatly reduced instream flows, increasing seasonal stream discharge is essential to promoting recovery of physical and biological processes that determine the capacity of the aquatic system to support living communities (see Bovee 1982, NRC 1994)). In the case of the North Fork Skokomish, evidence showing the spatial extent of increasing habitat with increasing flow is limited by design, in that measures of the cross-sectional area were limited to the channel under current prevailing flows rather than

historic discharge capacities. This greatly understates the amount and nature of habitat that would be realized under regimes that more closely mimic historic flows. Had the draft EIS provided true bank full channel cross-section data, EPA would be in a better position to evaluate potential habitat recovery under flow regimes in excess of those recommended by FERC. Aquatic habitats, once available in the mainstem river, supported spawning and rearing of a variety of salmonid. Bed aggradation in this reach, in part attributable to reduced flows from the diverted North Fork, has reduced the stability and thus suitability of this area to provide such habitats. Return of flows that restores a dynamic equilibrium to the North Fork would: provide a greater amount of salmonid habitat in the North Fork; facilitate the recovery of a stable channel form with the capacity to efficiently transport bedload; increase sediment transport and salmonid habitat in the mainstem; and assist restoring the health of the estuary.

EPA recommends the formation of an Instream Flow Committee.

As mentioned in our letter dated October 26, 1994 we believe an Instream Flow Committee should be formed to develop a plan for restoring flows to the North Fork Skokomish River. There are many affected and interested parties in the Skokomish watershed. Development and implementation of an instream flow plan will require coordination with Tacoma, fisheries agencies, estuary restoration planning, flood control, wildlife managers, etc. Establishment of a committee seems to be the most logical process for engaging in meaningful dialogue and decision-making. The goal of the committee would be to develop a detailed implementation plan for restoring appropriate flows back into the Skokomish watershed.

Specific comments concerning the Hydrologic Analysis

The draft EIS also lacks an appropriate analysis of basin hydrology, especially in linking flow information from the South Fork with that of the bedload aggradation and diminishment channel conveyance capacity in the mainstem. EPA believes there is a wealth of hydrologic information available on this issue and encourages FERC to more fully utilize the material in the revised draft EIS NEPA document.

EPA has concerns over how some of the hydrologic data was presented. The North Fork hydrology, presented in Figure 3-5, has two of the three curves mislabeled in the legend, and displays flow duration as exceedence values rather than showing seasonal variation with and without the diversion acting upon the discharge values. This does little to help the reader interpret the significance of the flow alterations on either the transport efficiency or habitat characteristics. Discharge statistics for natural North Fork hydrology could be better displayed

graphically as recurrence intervals, rather than exceedence probabilities. Daily discharge information at the Potlatch gage site does little to approximate the natural flow regimes because of the influence of lake storage in shaping the discharge through the turbines at Powerhouse No. 2. Also, the relative merits of FERC's proposed flow regime could be judged against alternatives proposed by JRP's, if common discharge statistics were provided, such as:

QAA = Average annual flow with & w/o dams, over the period of record and on ten year sliding averages;
 Q7L2 and Q7L20 = 2- and 20 yr. 7-day average low flows;
 Q1F2 and Q1F50 = 2- and 20 yr. 1-day flood flows;
 QPF2 and QPF50 = 2 - and 50yr. Peak flood flows;
 Monthly average maximum, mean and minimum flows, over the period of record; and
 Duration curves for an average, maximum and minimum water year.

Using these statistics, and additional information on channel characteristics, one could calculate the characteristic geometry of the channel associated with differing flow regimes (Orsborn 1990a, 1990b).

Hydrology/Flooding of the Mainstem Skokomish River

The draft EIS does not adequately address mitigation of continued sediment aggradation and associated flooding.

EPA is pleased the draft EIS recognizes the Cushman Project impacts sediment aggradation in the mainstem Skokomish River. However, EPA does not believe that any of the alternatives proposed in the draft EIS adequately addresses how past, present and future impacts will be mitigated.

The draft EIS indicates the reduction of the mainstem channel carrying capacity is causing more frequent flooding at lower flows impacting homes, agriculture lands, pastures and personal property. The draft EIS does not provide any concrete figures or elaborate on the severity of the impacts. The revised draft EIS should provide a detailed discussion of the impacts. To help illustrate this the revised draft EIS should also provide maps which shows the river's floodplain and the riparian zones, houses, agricultural land, wells and other resources that are impacted by the increased flooding.

The draft EIS states that as the river bed fills with gravel, the channel capacity is reduced causing more frequent overbank floodflows. Also, the draft EIS indicates that Skokomish River bed aggradation is progressively increasing flooding of the Skokomish Valley, (i.e., the problem will only worsen unless measures are taken to reverse this). Throughout

the document it is acknowledged that the out-of-basin diversion is partially responsible for mainstem sediment aggradation.

The draft EIS estimates that Cushman out-of-basin diversion causes about half of the sediment aggradation. To try to understand the impact from the 70 years of out-of-basin diversion, one needs to look at the past conditions of the mainstem and the present conditions. On page 4-1 the draft EIS states, "Mainstem aggradation has reduced the channel conveyance capacity, causing flooding to occur at flows of about 5000 cfs or more." This information does not provide the public or decision-maker any reference to what the channel was like before the project was constructed; such information is needed for assessing continuing impacts to the natural channel. According to Dawdy (1994), channel capacity near the Highway 101 bridge was approximately 18,000 cfs in 1944, indicating current capacity is less than one-third of historic capacity. Again, recognizing that out-of-basin diversion causes about half of the aggradation, this gives perspective on the extent of the loss of instream flow capacity in the mainstem Skokomish River. This is an example of why pre-project information is relevant to informed decision-making.

EPA believes it has been clearly established that for over 70 years the Cushman project has significantly contributed to the sediment aggradation and more frequent and lower level flooding of the mainstem Skokomish River. Consequently, FERC must include measures in its range of alternatives to appropriately mitigate the impacts.

Under Alternative 2, the draft EIS indicates that returning near full flows to the North Fork would increase the mainstem's sediment transport capacity and deepen the mainstem channel. The draft EIS states "Simons & Associates (TPU's consultant) estimated that returning full natural flows to the mainstem would reduce existing aggradation rates by about half." The draft EIS also concludes Alternative 2 (near full flows) would reduce existing mainstem aggradation by about half. EPA recognizes other measures such as those outlined in Mason County's Final Flood Hazard Management Plan would likely be needed to fully address flooding problems. Nevertheless, the draft EIS clearly demonstrates that Alternative 2, returning near full flows, would significantly assist in reversing (reducing) the sediment aggradation. However, the draft EIS rejects the use of the natural forces of nature (i.e., returning flows) to mitigate for flooding impacts, concluding instead that returning near natural flows could have significant adverse effects on mainstem fisheries and would cause a significant loss of hydropower generation. EPA does not agree with FERC's position on short-term impacts on fisheries nor does EPA believe the draft EIS has properly evaluated or balanced non-developmental values vs. power values. We have addressed these issues in the Aquatic Resources

and Economics section of our letter.

The FERC staff recommended alternative (Alternative 3) attempts to address the sediment aggradation and flooding impacts by requiring the TPU to: participate in implementing projects under Mason County's Flood Management Plan; develop a channel conveyance capacity enhancement plan within one year of license issuance; and evaluate augmented flows on the Skokomish River channel capacity.

Although EPA supports certain aspects of Alternative 3's recommendations for mitigating sediment aggradation and flooding impacts, on the whole EPA believes it is unacceptable due to the reason discussed below. Specifically, the draft EIS indicates reducing sediment loads and increasing the length of time that near-flood flows (about 5000 cfs) occur would gradually increase the channel capacity. Channel manipulation may be necessary to accelerate these natural processes. According to the draft EIS, these two processes would need to occur concurrently or else channel conveyance would only be temporary. The draft EIS indicates that Alternative 3's proposal of 240 cfs flows down the North Fork would not effect mainstem high flow frequency and thus not effect sediment transport in the mainstem.

Therefore, under Alternative 3 the only flows used to help move sediments would be the augmented flow (total 25,000 acre feet) of 5 continuous days of flows per year at 2500 cfs. Five years after license issuance, FERC will evaluate this flow augmentation plan to determine the effectiveness of maintaining the mainstem's conveyance capacity. Only if the flows are determined to be effective will Tacoma be required to continue the limited augmented flows for the life of the license. This limited amount of "flushing flows", even if highly effective, would only be for 5 out of 365 days of the year.

The 25,000 acre feet proposed by FERC represents a water budget of 1.09 million cubic feet. (1 acre foot = 43,560 cubic feet; $25,000 \times 43,560 = 1.089$ million cubic feet). If this budget were to be "spent" to provide flows added to those of the South Fork, of sufficient magnitude to allow for bed transport to occur in the mainstem river, the magnitude and duration of the flow releases would have to be shaped to prevailing conditions. For example, if historic bankfull flows in the North Fork were 4000 cfs, then the 1.09 million cubic feet would allow 272,500 seconds of release at that flow magnitude, which translates into 75 hours of releases at that magnitude. The hydrologic analysis provided in the EIS doesn't allow one to easily understand how often events of such magnitude occurred in the North Fork, nor an understanding of how such flows were matched with those of the mainstem and South Fork river. This amount may or may not be enough to affect the changes over time that would be necessary to establish a balance to bed transport dynamics in the lower

mainstem, or to the water balance in the estuary. The revised draft EIS should explain the rationale for limiting the use of 25,000 acre feet/year and choosing 5 days of near full bank flows and include criteria TPU must meet in determining its effectiveness in transporting aggraded sediments in the mainstem.

FERC's other mitigation measure recommended for the out-of-basin diversion impacts on the mainstem flooding include TPU's participation in "implementing priority projects" developed in Mason County's Flood Management Plan. TPU would also submit to the Commission a final channel conveyance capacity enhancement plan which would include recommended measures to reduce flood hazards to an acceptable level and cost estimates for the selected measures and options for financing the project(s) including TPU's proposed level of contribution. This level of detail and ambiguous commitment of TPU's participation in mitigating impacts is unacceptable. Under this approach TPU is not committed to any relative level of mitigation for the impact, even though there is a direct cause and effect that has been established. In fact, FERC requests that TPU propose a level of contribution for implementing conveyance capacity mitigation. The revised draft EIS should clearly state the commitments that can be expected for mitigating the flooding impacts and mainstem habitat impacts.

Groundwater Impacts

The revised draft EIS should discuss impacts on groundwater.

Presently, the draft EIS does not discuss impacts on groundwater due to the sediment aggradation that has occurred in the mainstem. As mentioned in our October 26, 1994 letter, EPA is concerned that the groundwater level in the lower mainstem has risen and has had a negative impact on septic drain fields and possibly drinking water wells. According to Watson, groundwater levels have risen and are continuing to rise (Watson, 1995). The revised draft should address impacts on groundwater.

Skokomish Estuary

FERC's recommended alternative does not adequately discuss or mitigate continued adverse impacts on the estuary.

The water quality section lacks a discussion on water quality impacts within the Skokomish River estuary. These impacts center around significantly reducing mixture of fresh water and salt water due the diversion of fresh water out of the Skokomish basin. A reduction of fresh water within the lower basin could continue to cause water quality related impacts, which could increase salt water intrusion and restrict flushing action needed to move organic material through the estuary processing system into the Hood Canal.

The draft EIS only briefly addresses the impacts associated with the project's current reduction of fresh/saltwater water mixing zone in the Skokomish estuary. The transition zone is extremely important to salmon smolts when going from fresh water to salt water (Simenstad, Fresh and Salo, 1982). The reduction fresh/saltwater mixing zone reduces the spatial and temporal habitat for the productive capacity of the estuary. In Tacoma's Proposal to provide 100 cfs of flow in the North Fork Skokomish, the draft EIS states that, "The slight increase in freshwater would convert only nearly undetectable amounts of saline marsh and brackish marsh vegetation to brackish and freshwater marsh, respectively." The draft EIS indicates that significant water quality impacts due to the out-of-basin diversion would continue to occur due to Tacoma's alternative. The revised draft EIS should evaluate the magnitude and duration of these water quality impacts (past, present and future). This information is vital for a complete evaluation of all proposed alternatives.

A number of studies have been carried out within the estuary to address sediment transport, but it is EPA's understanding that no water quality studies have been undertaken that fully address estuarine impacts associated with the past diversion of approximately 40% of flows or the proposed future diversion of the Skokomish River out of its basin. Additional analysis/information is needed to look at the fresh water and salt water mixing within the estuary and in Hood Canal as they are related to biological impacts. Extensive reduction in the natural fresh water flows to the estuary alone is sufficient to reduce the natural productivity of the estuary and decrease its carrying capacity for fish and wildlife. This zone is an ecological unique region that is particularly important to Pacific salmon, (C. Simenstad).

EPA is pleased the draft EIS recognizes that removal of the dikes at the Nalley Ranch will likely result in significant habitat gains to the estuarine wetlands system. However, we are not convinced that the removal of these artificial structures alone will entirely offset aquatic resource impacts that have occurred and will continue to occur within the estuary due to the historic and potential diversion. We strongly emphasize the importance of the fresh water flows to the overall potential restoration of the estuary system. Without the fresh water flows the estuary would be lacking a major ingredient in making it a fully functioning system.

The draft EIS states, "...because (of the removal of the dikes) the 20 to 25 percent increase in estuarine intertidal habits is almost certain to provide substantial, long-term, overall benefits for those fisheries resources." The basis for this conclusion is unclear. The revised draft EIS should provide sufficient documentation to support this statement. A number of

studies have been conducted on the effects of the diversions, and reestablishment of flows. Some of these studies have drawn contradictory conclusions. It is important that these issues be addressed before a final decision is made on the project.

Table 6-1 does not adequately compare estuary impacts in both the JRP alternative No. 2 and the Staff alternative No. 3. It should be noted and stated that the JRP alternative No. 2 is the closest alternative that would reestablish the historic natural flows back to the Skokomish River, thus allowing for the greatest opportunity to offset diversion impacts. For FERC staff's alternative, on page 6-6, the EIS states, "There would be minor short term sediment increases with essentially no delta recession or progradation. Brackish and saline marsh and mudflat restoration and long-term habitat benefits for shellfish and salmon, and marine fisheries would be similar to Alternative 2". This statement is misleading and unsubstantiated. Alternative 3 will still divert approximately 70 percent of the Skokomish River out of the basin. Because of this continual diversion, the uncertainty of significant impacts within the estuary due to removal of natural fresh water flushing and sediment transport still exists.

EPA disagrees with the conclusion in the draft EIS that "Tacoma's proposal would substantially enhance aquatic resources." We believe that the diversion of up to 70 percent of the Skokomish River out of its basin would not substantially enhance the aquatic resources. The continual diversion of the river impacts the water quality of the estuary due to reduced flushing ability from natural Skokomish River flows. This flushing action is an important function of an estuarine ecosystem in trapping and processing contaminants. Once these contaminants are treated naturally within the estuary they are flushed out providing opportunity for treating other contaminants washed down during high flow events. If an estuary becomes over burdened, this capacity is diminished and the natural process breaks down and becomes ineffective in treating contaminants.

EPA does not concur with the draft EIS's statement that "Alternative 3 would provide the most benefits and have the least adverse impact." The draft EIS has not demonstrated how Alternative 3's flows of 240 cfs would stop the long term decline of the health of the estuary. As of this date, 2 to 2.5 percent of the total delta surface area has been lost due to erosion, there has been a 18.5 percent loss of intertidal delta surface area, a 17% loss of eelgrass beds, and a loss of surface area and volume of mesohaline waters of high biological productivity. All of these losses have been linked to the reduction of approximately 40 percent of the Skokomish River's flows (D. Jay). Alternative 3 would continue diverting approximately 70 percent of the flows of the Skokomish River out-of-basin. To further emphasize this point, three river deltas within the Puget Sound

Basin that have had their natural flows altered by dams and water diversion (Nisqually, Skagit and the Duwamish Rivers) continue to have suffered habitat losses due to reduction in the delta area. Both the Nooksack and the Stillaguamish, have no major dams or diversion in their watershed and continue to have an increase in delta growth (D. Jay).

Economic Analysis

The revised draft EIS should include in its economic analysis the benefits derived from restoration of flows.

First, the draft EIS excludes from its economic analysis the benefits derived from restoration of flows and proposed mitigation measures. EPA has several concerns over the manner in which FERC has conducted its "economic analysis" of the alternatives considered. For example, Washington state's sport, commercial and tribal fisheries, are important to the state's economy. But, the draft EIS does not quantitatively or qualitatively evaluate net benefits, even though the Skokomish Tribe has provided FERC with projections of the economic benefit that could be obtained from a restored salmon fishery. Instead, FERC's economic analysis only considers the cost of restoration of flows and mitigation measures as imposing costs on Tacoma. The revised draft EIS should include an assessment of potential economic benefits associated with the proposed alternatives as well as costs.

In section 5.3, FERC evaluated Tacoma's proposal and each of the alternatives in terms of the "annual net benefits" to Tacoma's ratepayers vis-a-vis the cost of "replacement energy." This replacement energy was projected to be \$.0281/Kwh, the cost of energy if it were obtained from other sources. An alternative had a net benefit, if the total costs from project operation including those imposed by mitigation measures was less than the replacement values of energy generated. Thus, what the draft EIS refers to as "annual net benefits" is actually Tacoma's annual net revenue. Actual net benefits would reflect the benefits accruing to the general public under Tacoma's proposal and the alternatives; no such analysis is presented in the draft EIS. See draft EIS at p. 5-8, "Comparison of effects of proposed project and alternatives on power generation, costs, and annual net benefits."

As indicated above, FERC does not include in its economic analysis the benefits of non-power measures qualitatively or quantitatively. While the draft EIS attempts to explain that such benefits were discussed elsewhere, the effect of their omission from the economic discussion, skews the inquiry away from a balanced consideration of power and non-power values to one preserving some level of "net benefit" to Tacoma. In other words, the "net benefit" inquiry that should occur would

evaluate the net benefit to the general public that accrues under each of the alternatives.

What FERC's method of economic comparison does provide is a means of estimating the level of increased costs that may be imposed on Tacoma consistent with maintaining Tacoma's interest in operating the Cushman project. This method favors those alternatives that confine the total costs associated with mitigation measures to the margin between Tacoma's operating costs and replacement costs. This method of comparison does not conform with the FPA's requirement that equal consideration be given to power and non-power values.

To fulfill its obligations under both NEPA and the FPA, we believe FERC must make an effort to evaluate the benefits of the proposed alternatives, specifically restoration of more natural flows and associated mitigation measures. Under NEPA, even if those benefits cannot be described in monetary terms, "environmental impacts, values and amenities" must nevertheless be considered in the "weighing of the merits and drawbacks of various alternatives." 40 CFR 1502.23. By reducing the mitigation measures to their cost to Tacoma, non-power values, both quantitative and qualitative, are disregarded.

Second, the draft EIS evaluation of costs is inadequate. In Table 5-6 of the draft EIS, FERC presents the average energy generated under each alternative flow regime and uses this average to compute "annual power value." From this value "annual total costs" are subtracted. The costs listed here are significantly higher than the costs summarized in prior tables (see Tables 5-2 through 5-4). Also included in Table 5-6 are figures representing the "annual value of generation loss." It is not clear whether this amount was included in the annual total costs; if it was, then FERC has double-counted these losses because these annual power value totals already reflect reduced energy generation losses. As Tacoma's "annual net benefit" (*i.e.* its annual net revenue) under the various alternatives are derived from this analysis, it is important that the correct data be provided.

Third, the draft EIS does not analyze the cost-effectiveness of building an additional powerhouse on the North Fork. Tacoma's proposal and Alternatives 2 and 3 each consider the costs of new powerhouses. Alternative 2's new powerhouse would be the most expensive and therefore shows the net revenue comparison with other alternative. From the information presented in the draft EIS it does not appear that any of the powerhouse additions would be cost-effective.

Tacoma Public Utility is energy-constrained, which means that the value of new generating capacity is derived mainly from the energy-producing capability of the facility, as opposed

to filling a need for higher-value peak capacity. Therefore, the annual value of generation from powerhouse No. 3 in Alternative 2, for example, is \$1,766,016 (16,000 Kw x 8760 hrs/yr x 45% (assumed) operating capacity x \$0.028/Kwh). Since the annualized capital cost plus operating expenses total \$2,612,800, the addition does not appear to be cost-effective. The same is true for the other added-generation configurations.

Fourth, Alternative 2, which combines the mitigation measures and restored flow proposals offered by several state and federal agencies and the Skokomish Tribe, is portrayed as imposing total costs well in excess of project revenues. This conclusion primarily results from inclusion of an expensive wildlife habitat restoration measure involving a sizable land purchase. Specifically, the draft EIS includes in Alternative 2 several proposed habitat purchases, among them the very expensive Lilliwap Swamp timbered-land acquisition. Because the Lilliwap Swamp acquisition drives the economic outcome of Alternative 2, this measure should have been considered separately. That is, FERC should have performed a sensitivity analysis to identify the effects of such measures in the net-revenue analysis. The costs of each mitigation measure could have been considered in light of a quantified measure of its benefits. Then, an alternative that incorporates the most affordable and cost-effective measures could have been developed.

The above inadequacies in conducting the economic analysis strongly indicate that FERC has not appropriately balance environmental and power generation values. In order to appreciate the potential non-power values of flow and habitat restoration, FERC should more closely examine past conditions in a thorough cumulative impacts analysis. Such history may motivate a comprehensive and balanced look at the resource, toward reaching a means to mitigate impacts and to balance power and non-power values.

Alternatives Analysis

FERC inappropriately characterized the No-Action Alternative.

Every EIS must analyze the proposed action and reasonable alternatives to the proposed action, including the no-action alternative. 40 CFR 1502.14. The consideration of alternatives is "the heart of the environmental impact statement."

The Council on Environmental Quality guidance entitled **Forty Most Asked Questions Concerning CEO's National Environmental Policy Act Regulations** describes two approaches to the No Action alternative. 46 **Fed. Reg.** 18026 (1981). Under the first, the present course of action continues until the action is changed. **Id.** at 18027. It is properly utilized where "ongoing

programs initiated under existing legislation and regulations will continue." *Id.* Under the second approach, the No Action alternative considers the environmental effects if "the proposed activity would not take place." *Id.* Under the latter approach, "the resulting environmental effects from taking no action would be compared with the effects of permitting the proposed activity or an alternative activity to go forward." *Id.*

The Draft EIS apparently seeks to apply the first approach. It describes the no-action alternative as follows:

Under Alternative 1, no action, the project would continue to operate as it does today, under existing operating conditions and constraints

Draft EIS at 1-1.

Thus, it appears that FERC undertakes an approach to the No Action alternative that allows the continuation of the status quo.

In Confederated Tribes and Bands of the Yakima Indian Nation v. FERC, 746 F.2d 466, 476 (9th Cir. 1984), the Ninth Circuit Court of Appeals precluded FERC from approaching relicensing as "a mere continuation of the status quo." *Id.* In that case, the Ninth Circuit prohibited FERC from "making a new commitment of the resource" for a lengthy term without conducting an EIS. Yakima Indian Nation is instructive in deciding which of the two No Action approaches described by CEQ should be applied here. In rejecting relicensing as the "mere continuation of the status quo," the Ninth Circuit prohibited FERC from treating relicensing as project operation were an "ongoing program." Therefore, the appropriate No Action alternative under the CEQ guidance would consider the effects if "proposed activity would not take place," (*i.e.* if FERC would issue neither a long-term license nor any more annual licenses).

By defining the continued action of issuing annual licenses as the No Action alternative FERC adopts the current environment as its "environmental baseline" and gives little consideration to the past environmental effects that have accrued for the past 70 years. FERC also uses this baseline approach to characterize all environmental measures as "enhancements" of the existing environment rather than mitigation of impacts resulting from the projects construction and 70 years of operation. Thus, in the final analysis, FERC measures Tacoma's proposal and the other alternatives against the current project-degraded environment rather than the robust environment that could exist if dam operations were curtailed and that did exist prior to dam construction.

FERC's No Action alternative and the environmental

baseline that flows from it also are inconsistent with FERC's obligations under the Federal Power Act, 16 U.S.C. § 797(e). The FPA requires that in deciding whether to issue a license, FERC "in addition to the power and development purposes for which licenses are issued, shall give equal consideration to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of, fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of other aspects of environmental quality." (Emphasis supplied.) Thus, FERC's responsibilities under the FPA require the balancing of power and non-power values. See United States Department of Interior v. FERC, 952 F.2d 538, 545 (D.C. Cir. 1992). FERC's No Action alternative and resulting environmental baseline result in a highly unbalanced consideration of environmental quality. By considering the project-degraded environment as its baseline, FERC fails to give adequate, much less equal, consideration to mitigating the damage to fish and wildlife caused by project operation.

The NEPA inquiry is intended to ensure that no decision is made without considering the environmental effects of that decision. The FPA goes on to require equal consideration of environmental values. By adopting as the No Action alternative the indefinite continuation of annual licenses and defining a baseline premised on this alternative, FERC does not satisfy the intent of these acts. Instead, FERC must develop a No Action alternative that explores the environmental impact associated were FERC to decide not to issue a license. One likely result would be the cessation of out-of-basin diversions. The potential environmental effects of that can only be fully appreciated by giving thorough consideration to the conditions that prevailed prior to the initiation of that diversion.

The Draft EIS Does Not Consider Other Reasonable Alternatives.

The draft EIS presents, as alternatives to Tacoma's proposal, a limited number of alternatives. One of these is Alternative 2, which includes all the mitigation measures proposed by the Tribe and various resources agencies in a single alternative. In its economic analysis, FERC does not consider the cost-effectiveness of the various mitigation measures included in Alternative 2. The draft EIS also fails to reflect the level of benefits that would accrue to the general public if all such measures were implemented. Along the same lines, FERC does not evaluate how the habitat preservation goals of the land acquisition measures included in Alternative 2 might be achieved less expensively. And as mentioned above, FERC included the addition of powerhouse 3, an expensive 16 megawatt generator, without considering more cost-effective powerhouse configurations, or none at all.

Likewise, under Alternative 4, only decommissioning of the entire project is considered. Partial decommissioning, specifically decommissioning of only powerhouse 2, is not separately considered. Under this partial decommissioning alternative, Tacoma would obtain the benefit of energy generated from powerhouse 1, while both dams could continue to serve flood control purposes. (Alternatively, powerhouse 2 might remain in commission but operate only when flows are diverted from the North Fork to prevent flooding.) Equally important, the well-managed termination of the diversion of flows from the North Fork could then be pursued. Reasonable accommodation of the interest in preserving summer pool levels in Lake Cushman and Lake Kokanee with the interest in higher level flows in the North Fork could be achieved more easily in the absence of powerhouse 2's water requirements. If determined to be in the public interest, a portion of the revenue produced by sale of the energy from powerhouse 1 could be utilized for fish and wildlife habitat restoration.

Of course, these alternative may appear viable only if FERC departs from its method of economic analysis. That analysis evaluates alternatives only in terms of their effect on Tacoma's net revenue. As mentioned above the appropriate analysis would evaluate alternatives in terms of their total costs and benefits to the general public. It would take into account the benefits achieved through mitigation and restoration measures rather than their costs alone. To the extent the values of such programs cannot be reasonably estimated in dollar terms, they should at least be qualitatively addressed.

To reiterate, the revised draft EIS should evaluate another alternative which would (1) consider the cost-effectiveness of the construction of any new powerhouse; (2) conduct a sensitivity analysis to determine the cost-effectiveness of the mitigation measures proposed by the JRP; (3) quantitatively assess the benefits of those measures (or qualitatively assess them if a quantitative assessment is not feasible or not appropriate); and (4) in conducting the economic analysis, compare the net benefits to the general public that accrue from this alternative with the net benefits of the other alternatives.

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UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

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| City of Tacoma, Washington |) | |
| |) | |
| North Fork Skokomish River; |) | Project No. 460 |
| Cushman Hydroelectric Project |) | |

CERTIFICATE OF SERVICE

I hereby certify that I have this date mailed by regular mail, postage prepaid, a copy of the United States Environmental Protection Agency's Notice of Substitution of Attorney as follows:

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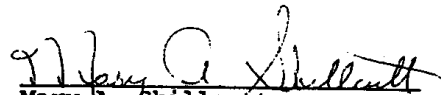
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